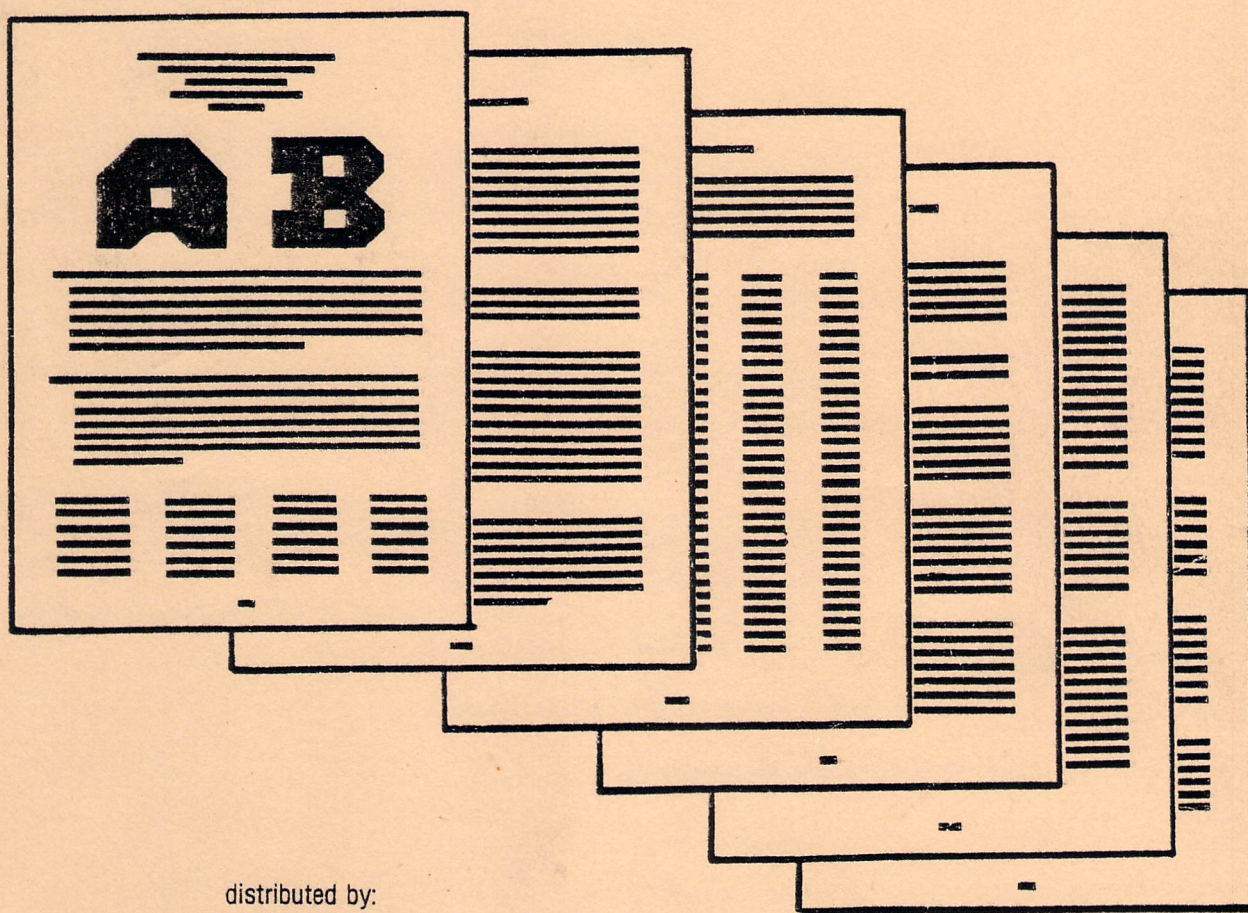


PaperMate

60 Command Word Processor for PET/CBM

© 1980 by Michael Riley



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PAPER-MATE
60 COMMAND
WORD PROCESSOR
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INTRODUCTION

To get a feel for how this program works, most people will probably find it helpful to load the program "16pm" and then start experimenting with the various commands. Most of the commands are listed on the back page along with a reference to a more detailed explanation of their use. You may wish to write some practice text or to load one of the sample files that come with the disk version. This text can be used to practice the block commands. The sections below on "Starting Up", "Writing", and "Saving" have been written in a manner that a person unfamiliar with the PET should find easy to understand. Some of the sections that explain the more esoteric functions, such as graphics, assume that the reader has had some experience with the PET.

It is possible to type faster than the program's ability to process your keystrokes. However, when the program falls more than a few strokes behind, it will catch up by displaying several characters at once.

STARTING UP

1. If you are using a disk drive, remove all disks from the drive. Turn the PET off then on.
2. Place the CMD 60 disk in disk drive 0, or place the cassette in the cassette drive.
3. For the Disk, type `LOAD"*,8` or `load"*,8` (whichever results when you type unshifted letters). For cassette use, type `"LOAD"`.
4. Press the RETURN key.
5. Type `"RUN"` (or `"run"`) and hit RETURN.
6. Display should read, `"is this type in lower case?y"`. If yes, then hit RETURN. If no then hit `"N"` then RETURN. See section "Sign On" for more information about this command.
7. Display should read, `"write (100 lines) or edit (MAX)?e"`.
8. If you have one of the newer PET's with the 4.0 ROM's, you should hit RETURN to indicate you want the maximum number of lines. If you have an older PET and you are writing a first draft, type `"w"` to change the `"e"` on the screen to a `"w"`, then hit RETURN.
9. Display should show `"PAPER-MATE"` and an abbreviated list of editing commands.
10. Press `"w"`, for `"write or edit"`.
11. The display should show a number `"1"` in the upper left hand corner. The cursor will soon appear at the bottom of the screen. Hit `"HOME"` (CLR/HOME button) to move the cursor to the top of the screen.

WRITING TEXT

If the text to be written is long, you will probably need to divide it into sections. Each section needs a different title. Type `"^ti="`, then type in the title, then hit the CURSOR DOWN key. If the title of the first section is, for example `"part a"`, then the line should read `"^ti=part a"`. This title will be used by the save routine, and it will be used to link sections of text together.

Typing with Command 60 is similar to typing on a typewriter, with a few exceptions. On a typewriter, you would hit carriage return at the end of each line. With this program, you need only continue typing (the program takes care of all line feeds and carriage returns when your text is printed on your printer). If a long word is typed at the end of a screen line,

WRITING TEXT

the word will automatically "wrap around" to the next screen line. Again, when your text is printed, words will be rejoined correctly.

There are occasions, however, when you should use carriage return to force a new print line, such as end of paragraph, end of title, end of signature, etc. When you are using this program, press RETURN at these times as you would on a typewriter. A back arrow (←) will be placed at the end of any text line to indicate the RETURN key was pressed. When your text is printed, a carriage return will be executed as indicated by the left arrow. Most carriage returns will occur automatically as the program justifies normal text.

You will notice that when you type a quote ("), a shifted quote character appears on the screen. When the text is printed, this character will be printed as a normal quote.

You may wish to write the first draft of a manuscript before you study the formatting commands. These commands can be entered later. However, if you want to make use of the tab functions, you should have an understanding of how tabulated items must be entered (see section on tabs).

There are several functions of this program, such as the "shiftlock on letters only", and the "defined keys mode", that are designed to make text entry easier. You may wish to become familiar with these functions before writing text.

When you come to within ten lines of using up the 100 lines of text for each section, a warning in reverse field will appear in the lower left hand corner of the screen indicating how many lines are left.

EXIT - The STOP key is disabled during the WRITE mode. At any other time it can be used to exit the program.

NOTE! There is an apparent bug in the current COMMODORE printer. When the printer is in lower case mode the characters "[", "\", "]", "↑", and "←" are printed as if they were shifted, ie: "⌈", "⋈", "⌋", "⌆", and "↵". Conversely, the same shifted characters are printed out as unshifted. If for example, you wanted to print a line containing a right bracket (]), the text line on the screen would have to contain a shifted right bracket (⌋).

SAVING THE TEXT

1. Hit the CLEAR key (shifted CLEAR/HOME). A list of the EDIT commands will appear on the screen.
2. Place the disk on which the text is to be saved in drive zero, or place a cassette in the cassette drive.
3. If the disk in drive zero has not been initialized, hit "c" for "command channel", then type "i0" (for "initialize drive 0") and hit RETURN.
4. Hit "s" for save. The word "NAME" should appear in the upper left hand corner. The title of this section should appear on the next line along with the cursor. If the title does not appear, or if it is incorrect, enter it correctly and hit RETURN. If you are saving on cassette, you should record the exact title of the file on the cassette label.
5. The operator will be asked if the device number is "8". If you are using a disk, hit RETURN to indicate that it is. If using cassette, type the number of the cassette drive, and hit RETURN.
6. If you are using a disk, you will be asked if the drive number is "0". Hit RETURN to indicate drive 0, or type "01" and hit RETURN for drive 1.
7. The text will be saved. The text will then reappear on the screen.

SAVING THE TEXT

8. If you now wish to write more text, you will first have to erase the text that is in the PET's memory. Hit CLEAR (shifted CLEAR/HOME) then "d" for delete. Now you must move the cursor to line one of the empty text space. Make sure the cursor is in the left hand column. Hit CURSOR UP key if it is not, then keep hitting the "LESS THAN" key (<) until a number one (1) appears in the left hand corner of the screen. The "1" indicates that the empty text line at the top of the screen is line number one. Hit HOME to move the cursor to the top of the screen. You are now ready to write the title of the next section.

LOADING TEXT

The load command works very much like the SAVE command. Press "1" for LOAD and the program will ask for the name of the file. If you are loading from cassette you should be especially carefull to spell the name of the file correctly, otherwise much time will be wasted while the cassette is searched.

TEXT TOO LARGE, CONT? - This prompt may appear after a LOAD or an APPEND command. It indicates there wasn't room to load the entire text. Some text has been left out.

DISK OWNERS - PAPER-MATE can coexist with DOS 4.0. To view the disk menu, 1) Press CLR to display the EDIT menu. 2) Press the STOP key to exit PAPER-MATE. 3) Type >\$ (ret) to view the menu. 4) Type CONT (RET) to reenter the program. 5) Press the W key for the WRITE-EDIT mode.

SIGN ON PROCEDURE

IS THIS TYPE IN LOWER CASE? - Older PETs have a character generator ROM which makes lower case letters look like upper case letters on the screen and vice versa. If your machine has an old ROM, this question will appear in upper case and should be answered with "n" for "no". This will cause the program to switch upper/lower case during typing and then switch back again during printing.

If the operator writes text with an old ROM and then purchases a new ROM and wants to use the same text, he will have a problem. The simplest solution is to continue to answer the question with "n" at sign on, when loading old text. The text will be reversed on the screen but it will print correctly.

A more ambitious solution is to temporarily substitute the following subroutine for the key definition routine at 8600-8699. Load your old text files, press "K", then resave the text. The "K" routine will now switch upper/lower case.

```
8500forln=1totp:ls=""ifl$(ln)=""thennextln:return
8510forlp=1tolen(l$(ln)):a=asc(mid$(l$(ln),lp,1))
8520l$=l$+chr$(a-128*(a>64anda<91)+128*(a>64+128anda<91+128))
8530nextlp:l$(ln)=l$:nextln:return
```

WRITE (100 LINES) OR EDIT (Max). Answering this question with a "w" for "write" is recommended when writing text if you have 1.0, 2.0, or 3.0 ROM's. This will limit the number of lines available for text to 100. Later when editing text, you can answer "e", to get the maximum number of lines. "e" could allow as many as 500 lines or more.

Frequently while the PET is operating, a procedure called "garbage collection" is performed. When the number of text lines is 100 or less, this happens too quickly to be noticed. If as many as 500 lines are used, the PET's with older ROM sets will occasionally halt operation for several seconds. This may cause the printer to stop printing, or it may cause the cursor to disappear, or an editing command may take longer than usual to execute. If you type more than ten characters during this pause, some of the characters will be lost and will not appear on the screen. Newer 4.0 ROMs for the PET have eliminated this problem.

SIGN ON PROCEDURE

The 100 line limitation for your first draft will eliminate lost characters and should not be a major inconvenience. In fact it will guard against typing in a large amount of text and then losing the text because of power failures, improper saving, etc.

EDITING

Making small changes in text can be accomplished by moving the cursor to the appropriate position and then either deleting unwanted text, writing over incorrect text, or inserting spaces and then writing new text in the inserted spaces. Major changes can be made with the block commands. Try loading in some of the sample text provided on disk or writing some of your own and then making some changes. Read the descriptions of the screen and block commands if you have any trouble understanding how they work.

Remember that the appearance of the text on the screen is not how the printed copy will look. The program will join together the text lines (lines on the screen) then break them up again into printed lines of the appropriate length. Of course, words will not be split from one line to the next unless hyphenated.

Notice that when characters are deleted from a text line, a gap forms on the right side of the line. This gap will not be printed. The program remembers which blank spaces were typed and which resulted from characters deleted from a line. Notice the two text lines below:

```
Now is the time for all
good men to come to the aid of their
```

The first line appears to be 23 characters long. Actually the line is 24 characters long. The first space after the word "all" is a typed space. It is part of the text line, rather than just part of the gap at the end of the line. If you were to move the cursor to the end of this line, the cursor would leave an apostrophe(') after the last typed character:

```
Now is the time for all '
good men to come to the aid of their
```

The position of the apostrophe in this example would assure you that if the words "all" and "good" were printed out on the same line, that they would be separated by a single space.

FORMAT - Text lines that have been edited with the **INSERT** and **DELETE** keys usually have gaps at their ends. These gaps make the text difficult to read on the screen. The **FORMAT** command makes the text more readable. Press **CLR** to enter the edit mode then press **F** for **FORMAT**. Press **F** again to format from the cursor to the next carriage return or press **A** to format all text.

SCREEN COMMANDS

CURSOR DOWN - Moves the cursor to the left hand column of the screen, then down the screen. The screen scrolls up when the bottom is reached.

CURSOR UP - The cursor moves to the left and then up. When the top of the screen is reached, a page-back is automatically executed.

>, PAGE FORWARD - When the cursor is in the left hand column of the screen, pressing ">" will display the next 25 lines of text. Pressing the key rapidly will cause the screen to page forward rapidly. A figure in reverse field is displayed at the top of the screen to indicate the number of the top line on the screen.

<, PAGE BACKWARD - Works the opposite as page forward.

SCREEN COMMANDS

HOME - Cursor moves to upper left corner of the screen.

CLEAR - Displays the Editing menu.

[, START BLOCK - When the cursor is on the left side of the screen, this key designates the start of a block of text (see section on block instructions).

], END OF BLOCK - When the cursor is on the left side of the screen, this key designates the last line of a block of text.

REV - The REV key toggles the software shift lock. That is, it turns the shift lock on when it is off and turns the shift lock off when it is on. This shift lock works on letters only. This is usually preferred to using a mechanical shift/lock which would shift punctuation as well. If you use the mechanical shift lock, be careful not to type shifted spaces. Words joined together with shifted spaces will not be separated when printed at the end of a line.

OFF - The shifted REV key toggles the graphics mode on the screen.

CARRIAGE RETURN - Places a carriage return marker (-) in the text and drops the cursor down to the next line. Used in paragraphing. The carriage return marker must be the last character on a line.

CURSOR RIGHT - Moves the cursor to the right. Stops when it reaches the end of the text that has been written for that line. Temporarily leaves an apostrophe (') after the last character in the line. When held down rather than tapped, the cursor will hop five spaces at a time.

CURSOR LEFT - Moves the cursor left. The cursor stops before it reaches the first column. To get to the left hand column, you must hit **CURSOR DOWN** or **CURSOR UP**.

DELETE - Deletes the character to the left of the cursor. Stops before the first column.

INSERT - When the cursor is in the text, the INSERT key usually works as it normally does on the PET. However, when a line contains 37 characters, there is no room to insert a space. Pressing the INSERT key on a full line causes the line to split into two shorter lines:

The quick brown fox jumped over the
lazy dog.

becomes:

The qu
ck brown fox jumped over the
lazy dog.

"quick" can now be corrected by typing an "i" after the "u" in "qu".

ALL OTHER CHARACTERS - When any key is hit other than those mentioned as control keys, the image of that key is written to the screen. When a complete text line has been written, the cursor drops down to the next line.

BLOCK COMMANDS

You can use the "[" and "]" keys to define a block of text. Move the cursor to the first line of the block. While the cursor is still in the lefthand column, hit the "[" key. The "[" character will appear under the cursor until the cursor is moved. The last line of the block is defined in a similar way. Move the cursor to the last line of the block. While the cursor is still in the left hand column, and on the same line as the last line of the block, hit the "]" key. Notice that only whole lines can be included in a block. Use the insert key

BLOCK COMMANDS

to split a line into two parts if necessary.

When the block is defined, press the shifted CLEAR/HOME key then press the appropriate command key.

d, DELETE BLOCK - This command erases a block and closes up the space.

m, MEMORIZE BLOCK - Saves a block to disk or tape. The block pointers remain in place after this function, so that a "Delete-Block" command could be executed without having to redefine the block.

a, APPEND BLOCK - Loads a block from disk or tape and adds it to the end of the present text. The block pointers are set to the appended block so that a block transfer command could be executed as soon as the cursor is moved to the destination position.

i, INSERT SPACE AT BLOCK POSITION - Inserts one or more empty text lines within the text. The "[" and "]" keys are used to define the future position of the empty block. All text at the block position and beyond is moved forward to make room.

t, TRANSFER BLOCK - This command transfers a block from one position in the text to another. First define the block you want to use, then move the cursor so that the top edge of the cursor indicates the position where the block will be inserted, and then hit "CLEAR" and then "t" for "transfer".

DEFINE KEYS

PET's that have "N" keyboards pose a problem for word processing programs. The period is located on the calculator keypad but not on the main keyboard. Also, the numbers are not available on the main keyboard. You can avoid this problem by entering the define-keyboard mode, and pressing "N" for "new keyboard". Now when you are writing text, and you hit the ";" key (which is where the period key would be on a typewriter), a period will appear on the screen. Hitting an unshifted key on the top row of the keyboard will type the appropriate number, hitting a shifted key on the top row will type punctuation.

You can change the designation of the keys to suit yourself. You may want the key arrangement to more closely resemble the arrangement that you have become used to on another keyboard, or you might want the keys to type graphic characters or control characters (see section on graphics). Enter the define-keyboard mode and press "D" for define keys. When asked "key?(return to exit)" hit the key that you wish to redefine. When asked "image?(return for asc)" hit the key that normally would produce the graphic character or control character that you wish to have printed. If the character is unavailable on your keyboard, hit RETURN and then enter the ascii value. If you save this program after defining keys, you will also save the new keyboard you have created.

IN-TEXT COMMANDS

Commands for formatting can be placed at the beginning of the text or they can be embedded within the text. This allows you to have complete format control throughout the printing. Each command must be on its own separate line and must start with a "^" character. For example.:

^lm=5

NOTE: PET'S WITH OLD CHARACTER GENERATOR ROMS (SEE SIGN-ON PROCEDURE) MUST USE UPPER CASE LETTERS FOR COMMANDS E.G. "LM=5"

The two characters following the "^" tell what the command does. A number (or a group of letters) follows the "=" sign to give additional information to the printer. To write a

IN-TEXT COMMANDS

command without leaving a carriage return marker (↵), use the CURSOR DOWN key instead of the RETURN key.

All in-text commands default to "↑XX=0" or "↑XX=" except Right Margin which defaults to "↑rm=79".

MARGINS

↑lm=X LEFT MARGIN - X equals the number of empty spaces to the left of the text. For example, "↑lm=10" would print text with a left margin that was ten characters wide.

↑rm=X RIGHT MARGIN - A right margin of 80 would mean that the last character in each line would be in the 80th column.

↑mr=X MARGIN RELEASE - A margin release of three, for example, would cause the next line to print three characters to the left of its normal position.

↑bm=X BOTTOM MARGIN - This command causes the program to print an additional margin at the bottom of the page. That is, the last line and page number will be printed X number of lines higher than normal. An additional margin at both the top and bottom can be created by setting X to the sum of both margins and aligning the top of the paper somewhat higher than the print head before using the PRINT command. "↑bm=0" turns this feature off.

LINKING TEXT

↑ti=XXX Title - XXX should be identical to the name that you intend to save this text under when you save to tape or disk. For example: "↑ti=chapter one". When you save, the name of the section to be saved will default to this title. The "↑ti=" command must be the first line in your text for this default feature to work.

To write a command without leaving a carriage return marker (↵), use the CURSOR DOWN key instead of the RETURN key.

↑nt=XXX NEXT TEXT - This command can be placed at the end of a section of text in order to link it with another section. XXX should be the file name of the next section to be loaded. For example: "↑nt=chapter two" could be placed at the end of the text file for chapter one. When chapter one is through printing, the text file named "chapter two" will automatically load and print. This command is also used by the operator controlled "load" routine. When you load new text, the name of the section to be loaded will default to the section named by the "↑nt=" command.

↑gt=X GOTO - When the program sees this command during printout, it will start reading text from text line number X. This command can be used to print the same section of text over and over. This command is used when printing form letters.

↑hc=X HOW MANY COPIES - This command is used with the "↑gt=" command to print multiple copies. It causes the printer to stop after X number of copies.

↑re=XXX REMARK - This command can be used to leave notes within your text that are not to be printed.

LINE FORMATTING

↑ls=X LINE SPACING - X should equal "1" for single spacing (no empty lines between printed lines), "2" for double spacing, etc.

↑ju=X JUSTIFY - When X is "1" the text will be justified. Both sides of the text will be flush against the margins. "↑ju=0" turns the justify off.

LINE FORMATTING

↑ce=X CENTER - "↑ce=3" would cause the next three printed lines to be centered between the left and right margins.

TABS

If your PET has a business keyboard, the TAB key is used for tabbing. It will leave a checkerboard shaped character in the text. For graphics keyboards, use the shifted "&" key. This character is an instruction to the printer to go to the next tab position. A single TAB character means go to the first TAB position, two means go to the second TAB position, etc.

The TAB characters must be the first characters in a line, otherwise they will simply be printed out like any other character.

For example:

```
↑t1=10
↑t2=30
↑t3=50
#eleven
#twelve
#thirteen←
#twenty one
#twenty three←
#thirty one
#thirty two
#thirty three←
```

Would be printed:

eleven	twelve	thirteen
twenty one		twenty three
thirty one	thirty two	thirty three

Notice that every element must be printed on a separate line so that the TAB will be the first character in the line. Notice also that a "←" (back arrow) is used only when the print head is supposed to go the next line. To end a line without leaving a "←", use the CURSOR DOWN key.

HYPHENATION

↑hy=X HYPHENATION - This command will not allow the printer to leave a gap of more than X characters at the right margin. "↑hy=6" or "↑hy=8" are recommended. When a long word at the end of a line is encountered during print out, the printing will be interrupted. The word, and some surrounding text, will be displayed on the screen. Use the cursor keys to move the "L" shaped pointer left until it points to the position where the hyphen is to be inserted. Then press "-". If you decide not to hyphenate, move the pointer under the space between the two words that are to be separated and press the space bar. If you wish to turn the hyphenation feature off, use "↑hy=30". You need not use the hyphenate feature until your final copy is to be printed.

PAGING

↑ps=X PAGE SIZE - The program can be used to separate a large text into individual pages with a header at the top and a page number at the bottom. The command turns the paging off if X is zero. If X is any other number, the auto paging is turned on and the page size is set to the value of X. A page size of 66 lines is standard for most printers.

↑pa=X PAUSE - When X is equal to "1" the PAUSE feature is turned on. Whenever the printer

PAGING

completes a page, the program will stop and wait until the SPACE key is pressed. This will allow you to change sheets of paper if you are not using continuous feed paper. "`↑pa=0`" turns this feature off.

`↑ph=XXX PAGE HEADER` - For example, "`↑ph=chapter one`". If this command is not used, three blank lines will be printed at the top of each page. Otherwise, page header will be centered between the first and third blank lines. To turn the page header off, use "`↑ph=`". Notice that a blank space has to follow the "=" sign in this command. Paging starts as soon as the "`↑ps=`" command is encountered. Therefore, if the "`↑ph=`" instruction is placed after the "`↑ps=`" instruction rather than before, then the first page will be printed without a header.

`↑pn=X PAGE NUMBER` - The instruction "`↑pn=X`" causes a page number to be printed at the bottom of each page, where X is the number of the first page. "`↑pn=0`" turns the page number off.

`↑pf=X PAGE FORCE` - The literal meaning of the command is "go to the next page unless you have X number of lines left at the bottom of this page". "`↑pf=X`" causes the printer to print blank lines to the bottom of the page and then continues the text on the next page. If you wish to unconditionally force a new page, set X to some number higher than the length of the page. For example, "`↑pf=999`". You may wish to use an unconditional page force at the end of each chapter in a novel.

Page force can also be used in a conditional sense. If, for example, you wish to print a chart or some section of text, and you did not want half of it printed on one page and half on another, you could set X equal to the number of printed lines in the section and place the command in the text immediately before the section. A page force will only be executed if there is not enough room to print the section at the bottom of the page.

FORM LETTERS

With this program you can write form letters. Inside the letter you can place instructions which mean "place the name of the customer here", or "place the type of product that he inquired about here", etc. On a separate file, you can write a list of the customers names and their products. When the command is given to print the form letter, a complete set of letters will be printed and each will have a different name and product. The lines that are to be inserted can be created with the word processor or by a separate program.

TO WRITE A FORM LETTER:

1. Near the beginning of the letter, place the instruction "`↑fl=XXX`", where XXX is the name of the form letter inserts file. For example, "`↑fl=list of customers`".
2. At each place where text lines are to be inserted place the instruction "`↑fi=1`".
3. At the end of the letter, place the instruction "`↑gt=X`" (e.g., "`↑gt=5`") where X is the number of the text line immediately after the "`↑fl=XXX`" instruction. This causes the letter to repeat automatically (see section on "`↑gt=`"), in such a way that the "`↑fn=XXX`" instruction will not be repeated. (The FN instruction opens the file. Opening the file twice would cause an error message.)
4. The "`↑pa=1`" pause command can be used to make the printer stop at the end of each letter (See section on pause). If using continuous feed paper, set an unconditional page force at the end of the text of the letter just before the "`↑gt=X`" command.
5. It is possible to generate a form letter list file from a sequential file that has already been created by another program. For example, you may already have a list of customers in a sequential file that was created for an accounting program. An intermediate program must be written to change the format of the file.

FORM LETTERS

The word processor program retrieves strings from a sequential file with an "INPUT#" statement. Therefore, strings which contain commas or colons must be preceded with a CHR\$(34). Quotes within strings must be replaced with CHR\$(168)'s. The last string in the file must read "EOD" (unshifted letters) which flags the end of data.

6. The form letter list file can be generated by PAPER-MATE. There should not be a "↑ti=" command or any other command in the list file. Each line should be ended with a CURSOR DOWN rather than a carriage return.

GRAPHICS

↑ch=X CHARACTER TO PRINTER sends a character with an ascii value of X to the printer. For example, on the PET printer, CHR\$(1) causes the printer to print enhanced characters until the next carriage return.

↑sa=X changes the secondary address of the printer to X. On the PET printer "↑sa=5" would allow the user to modify the line spacing by precise increments. A carriage return has to be sent to the printer before SA is changed to a different value. For example:

```
"↑sa=6" sets SA to 6
"↑ch=18" gets CHR$(18) ready for printer
"←" char$(18) and carriage return sent to printer
"↑sa=0" SA back to zero
```

GRAPHICS IN TEXT LINES: CHR\$(145) (CURSOR UP) changes the PETprinter to graphics mode. CHR\$(17)

(CURSOR DOWN) changes the printer back to upper and lower case letters. This program always places a CHR\$(17) at the beginning of each line sent to the printer. Therefore, You must send a chr\$(145) after each carriage return if you want to keep the printer in graphics mode.

For example:

```
"these graphics:"
"↑ch=145"
" ABCDEFG "
"↑ch=17"
"are available on the PET."
```

would print:

these graphics: ↑ | ——— | are available on the PET.

Note: On new PETs and old PETs with new character generator roms, the shifted keys will produce graphics after a chr\$(145). On PETs with old ROMS the situation is the same with the exception of the letter keys. Letter keys must be unshifted for graphics. The shifted quote character (") can only be produced by the command "↑ch=32".

CONTROL CHARACTERS WITHIN A LINE - It is possible to have control characters such as CURSOR UP (chr\$(145) or ENHANCE (chr\$(1) within a text line. Change line 730 in the program to read "...:q\$=chr\$(34):..." This will cause the text lines to be printed within quotes on the screen so that control characters will be visible. The define keyboard mode of this program can be used to redefine certain keys as control characters. Some of the shifted number keys (on PET's N-keyboard or calculator-keyboard) have already been designated as control characters.

Using control characters in a text line can cause problems when you try to edit a line. As the cursor moves over the character, the control function is executed. If this happens you can redraw the screen by paging forward and then back. It is recommended that you erase then rewrite the line.

DISK COMMANDS

Pressing CLEAR then "c" for "Command Channel" puts you in the Disk Command mode. Type any command that you wish to send to the disk controller and then hit RETURN.

NOTE: COMMANDS THAT CONTAIN COMMAS (,) OR COLONS (:) MUST BE ENCLOSED IN QUOTES. FOR EXAMPLE:

```
i0
d1=0
"n1!manuscript,ms"
"c0!chapter one=1!chapter one"
```

See your 2040 manual for more information on disk commands.

PRINT OUT

If you are using automatic paging, you must align the paper so that the top of the sheet is just above the print head. Hit the shifted CLEAR/HOME key to enter the Edit mode, then hit "p" for Print Out. The program will prompt you with some of the following questions:

"device number? 4" - Enter the printer device number.

"cmb printer? y" - Enter "n" for "no" if you are not using a Commodore printer.

"line feed? n" - If your printer does not require a linefeed character after each carriage return, answer "n" for "no". If you're not sure, answer "y". If your printer then prints double space instead of single, try again with "n".

NOTE: HIT "s" AT ANY TIME DURING PRINT-OUT TO INTERRUPT PRINTING. The machine will print one more line and then display the text on the screen. Printing cannot be resumed at the point of interruption. It must be restarted from the beginning of the text.

MOVE POINTER TO '-' POSITION AND HIT ' ' OR '-' - This is the hyphenation prompt. It will only appear if a 'thy=' command is in the text or if your text contains more than 20 characters in a row that do not contain a space and if these 20 characters fall at the end of a printed line. The prompt indicates that the 20 characters must be separated. See HYPENATION for more information.

CRASHES - At this time there are no known situations which can cause this program to crash. However, the program is very complex and there may be some that were missed. If a crash occurs try typing:

goto900 (RET)

LIST OF SUBROUTINES

700 SET UP
800 CHARACTER GENERATOR
900 CONTROL - EDIT COMMANDS
1100 CONTROL - SCREEN (CURS LEFT)
1200 CURS UP DOWN REPEATER
1300 CURS DOWN
1500 CURS UP
1700 PAGE >,<, OR JUST PRINT SCREEN
1900 COPY BLOCK (NOT USED)
2100 DEL BLOCK
2300 INST BLOCK
2500 CURS HOME
2900 DISK,TAPE - LOAD,SAVE
3100 OPEN FOR READ OR WRITE
3200 FIX OLD ROM TAPE BUG
3300 TRANSFER BLOCK
4100 CURSOR IN TEXT REPEATER
4300 CONTROL-CURS IN TEXT
4500 STRING HANDLING FOR CURS IN TEXT
 4510 NON-CONTROL CHARACTERS
 4530 CURS LEFT
 4540 CURS RIGHT
 4550 DEL CHARACTER
 4560 INSERT CHARACTER
 4570 DROP TO NEXT LINE
 4580 SPLIT LINE
 4590 WARNING - END OF TEXT SPACE
5500 PRINT OUT
5600 TRIM WK STRING
5650 RUB OUT WK STRING
5700 DO FORMAT COMMAND
5800 DO FORMAT COMMAND
5900 PAGE CONTROL
6000 HYPHEN
6100 JUSTIFY
6200 TAB
6250 CENTER
6300 GET CHAR HELPER
8400 COMMAND CHANNEL
8500 KEY DEFINITION
8600 OPEN COMMAND CHAN
8900 LIST IN-TEXT COMMANDS

VARIABLES

A\$ - 1ST PART OF L\$ WHEN CURSOR IN TEXT
 B\$ - 2ND PART OF L\$ WHEN CURSOR IN TEXT
 BS - BLOCK START -(1ST) LINE
 BE - BLOCK END -(LAST LINE)
 BI - BUFFER INDEX ADDRESS
 CP - CURSOR POSITION 1 = TOP SCREEN LINE
 CR\$ - CARRIAGE RETURN OR CARRIAGE RETURN PLUS LINE FEED
 CE - NO. LINES TO CENTER
 DA\$ - DATA STRING
 DR - DRIVE #
 FL\$ - FORM LETTER \$ HOLDING INPUT
 FK - FAST KEYBOARD(NEW KB) SWITCH
 FI - FORM LETTER INPUT (NO. LINES)
 IA - INTERRUPT VECTOR ADDRESS (LOW BYTE)
 IP - INTERRUPT ADDRESS (LOW BYTE)
 JU - JUSTIFY SWITCH
 KN - KEY NO.
 KI - KEY IMAGE ADDRESS
 KB - KEY BUFFER ADDRESS
 L\$(0)- EACH LINE OF TEXT
 LN - LINE NUMBER
 L\$ - LINE OF TEXT
 L - TEMP COUNTER FOR LINE NO.
 LU - LOOK UP NEW KEYBOARD ADDRESS
 LN - LINE NUMBER
 LC\$ - LEFT CHARACTER
 LP - LINE POINTER
 LM - LEFT MARGIN
 LS - LINE SPACING
 LL - LEGAL LENGTH OF LINE
 MR - MARG RELEASE
 ML - ADDRESS OF MACHINE LANG. SUB
 MX - MAX-HIGHEST LINE NO. ALLOWED
 PR - PRINTER FILE NO.(SA=2)
 PR\$ - PRINT STRING
 PS - PAGE SIZE(NO. PRINTED LINES)
 PD - PRINTER DEVICE NO.
 PH\$ - PAGE HEADER
 PN - PAGE NUMBER
 PF - PAGE FORCE(NO. LINES REQUIRED TO AVOID)
 PL - CURRENT PRINTER PAGE LINE NO.
 PA - PAUSE SWITCH
 PT - PET TYPE (0=OLD ROM)
 Q\$ - CHR\$(34)
 QF - QUOTE FLAG ADDRESS
 RB - REMEMBER BLOCK POSITION
 RM - RIGHT MARGIN
 RD - REMEMBER DISTANCE POSITION
 SW - SPLIT SWITCH - ON (1) WHEN LINE NEEDS TO BE SPLIT
 SP\$ - SPACE STRING
 SA - SECONDARY ADDRESS
 SK - SHIFTED KEYBOARD SWITCH
 TP - TOP LINE NO.
 NT - NEXT TEXT SWITCH
 T(WT)-TAB LENGTH
 V - GET VALUE FROM 6300
 WK\$ - WORK STRING
 WT - WHICH TAB

VARIABLES

W - HOW LONG TO WAIT FOR REPEAT
X\$ - TEMP
X - TEMP

FILES

#DT = 3 - DISK OR TAPE
#PR = 5 - PRINTER
#KE = 1 - KEYBOARD(ALWAYS OPEN)
#CC = 2- COMMAND CHANNEL(ALWAYS OPEN)

ADDENDUM TO PAPER-MATE MANUAL

The name of the PAPER-MATE program has been changed from 16CMD60 to 16PM.

The current version of the UNIVERSAL WEDGE program from Commodore has a bug. It incorrectly resets some pointers in zero page. This program should not be used with PAPER MATE. It will cause the program to crash when attempting to print.

If you have an 80 column PET, and you purchased PAPER MATE on disk, you should use the 80PM version of the program. If you purchased the program on tape, you will have to make one small change. The first command on line 700 is C4=40: . This should be changed to C4=80: . Files that were written on a 40 column PET can be changed to an 80 column format. Run an 80 column version of PAPER MATE, load the file, and use the FORMAT ALL command to re-format the text.

There are some mistakes in the manual. In the section on STARTING UP on page 2, line 6 should come after line 8. In the section on PRINT OUT on page 12, there is another prompt that is not mentioned. "adapter converts to asc?n" should be answered with an "n" for "no". If lower case does not print correctly, try "y".

If you have an MX-80 printer, this will not work:

```
This is the first line
↑ch=27
↑ch=96
This is enhanced printing.
```

Use this:

```
This is the first line
↑ch=27
E This is enhanced printing
```

COMMAND REVIEW

Command	Meaning	Page
——SIGN ON PROCEDURE——		
y/n	is this text in lower case?	4
w/e	write (100 lines) or edit (max)	4
——EDITING COMMANDS——		
W	Write (displays resident text)	2,5
S, L	Save or Load text (disk or tape)	3
M, A	Memorize, Append block (disk or tape)	7
T	Transfer block to cursor position	7
D	Delete block	7
I	Insert space at block position	7
P	Print text (and text linked by "fnt=")	12
F	Format Text	5
K	Key re-definition routine	7
C	Commands sent to disk	12
——SCREEN COMMANDS——		
↓,↑,HOME	As expected	When curs 5
[,]	Define 1st, last line of block	in left 6,6
>,<	Page ahead, back through text	column 5
⇒,⇐,INST,DEL	As expected (one line only)	When curs 6
↓,↑,HOME	cursor left then as expected	In text 5,6
RETN	Leave "<" marker, drop down	3,6
STOP	Disabled durring WRITE	3
OFF(sh-REV)	Screen graphics (on\off)	6
RVS	Shift lock (on\off)	6
CLR	Returns to edit mode	6
——COMMANDS WITHIN TEXT——		
↑lm=X	Set left margin to column X	8
↑rm=X	Set right margin to column X	8
↑bm=X	Marg rel next line X spaces	8
↑ti=XXX	Title for this section is "XXX"	8
↑re=XXX	Remark is "XXX"	8
↑gt=X	Goto line X (to repeat or skip text)	8
↑hc=X	Load and print next text file, "XXX"	8
↑ls=X	Line spacing (2=double space etc.)	8
↑ju=X	Justify if X=1, don't if X=0	8
↑ce=X	Center next X lines	9
↑tX=Y	Set tab X to column Y (X=1to9)	9
↑hy=X	Request hyphen if gap > X	9
↑ps=X	Full page size = X; if x=0 then no paging	9
↑pa=X	If X<0 then pause after paging	9
↑ph=XXX	Page header is "XXX"	10
↑pn=X	1st page number is X	10
↑pf=X	Paging forced if less than X lines left on page	10
↑fl=XXX	Open form letter data file, "XXX"	10
↑fi=1	Input one line for form letter	10
↑ch=X	Print CHR\$(X);	11
↑sa=X	Change secondary address to X	11
■	Appears as (") when printed	3
←	Force carriage ret (only at end of text line)	3,6
■	Print at next tab (only at start of text line)	9

